

Bar Code Laser Scanner Cards™

CompactFlash and PC Card versions

Systems and Connection Kits for Connecting Symbol 2104 and 4004i Scanner Guns to:

- *Windows Powered Pocket PCs*
- *Palm-size PCs, Handheld PC Pros and Pen Tablets
based on Windows CE*
- *Windows 9x/Me/2000/NT 4.0 Notebooks*

User's Guide



socket™

How This Manual Is Organized

This *User's Guide* contains separate chapters covering the installation and use of the Bar Code Laser Scanner Card Systems and Connection Kits on different Windows platforms.

Chapter 1, “**Introduction,**” gives you an overview of the Bar Code Laser Scanner Card System or Connection Kit package.

Chapter 2, “**Pocket PC and Other Windows CE Devices,**” tells you how to install the Bar Code Laser Scanner Card System or Connection Kit on a Windows Powered Pocket PC or Windows CE-based Palm-size PC, Handheld PC Pro, or pen tablet equipped with a Type I CompactFlash slot or a PC Card (PCMCIA) slot.

Chapter 3, “**Windows 9x/Me/2000,**” tells you how to install the Bar Code Laser Scanner Card System or Connection Kit on a notebook computer powered by Windows 95, Windows 98, Windows Me or Windows 2000.

Chapter 4, “**Windows NT 4.0 Notebooks,**” tells you how to install the Bar Code Laser Scanner Card System or Connection Kit on a Windows NT 4.0 notebook computer.

Appendix A, “**Specifications,**” describes the technical specifications of the Bar Code Laser Scanner Card System or Connection Kit package.

Appendix B, “**Updating Laser Guns,**” provides bar codes you should scan program guns for SocketScan 3.0. This is only necessary for guns not bought from Socket and guns bought from Socket but with a version of SocketScan previous to 3.0.

Appendix C, “**Default Parameters,**” lists the symbologies and other parameters that have been set as default for the LS2104 and LS4004i bar code laser scanner guns.

Appendix D, “**PDF 417,**” provides bar codes for you to enable or disable the PDF 417 symbology on your LS4004i gun.

Appendix E, “**Troubleshooting,**” helps you correct the most common problems you may encounter using the Bar Code Laser Scanner Card System or Connection Kit.

Appendix F “**Technical Support,**” tells you how to contact Socket's technical support department and lists information you should prepare yourself with before seeking help.

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Chapter 1 Introduction

Overview

The Socket Bar Code Laser Scanner Card Systems and Connection Kits let you scan bar codes anytime anywhere with a variety of Windows-based mobile computers. Just connect the scanner gun when you need it, then remove it when you're done.



The Systems and Connection Kits feature a CompactFlash or PC Card Bar Code Laser Scanner Card, which lets you connect a Symbol Technologies LS2104 or LS4004i bar code laser scanner gun to Windows-based devices.

Each System and Connection Kit includes SocketScan software. SocketScan's "keyboard wedge" function routes scanned data to an active Windows program as if it were manually typed, so you can use the scanner with virtually any Windows program.

Available Bar Code Scanner Card Systems and Connection Kits include:

- LS2104 Laser Scanner System (PC Card)
- LS2104 Laser Scanner Connection Kit (PC Card)
- LS2104 Laser Scanner System (CompactFlash)
- LS2104 Laser Scanner Connection Kit (CompactFlash)
- LS4004i Laser Scanner System (PC Card)
- LS4004i Laser Scanner Connection Kit (PC Card)

The CompactFlash card works in the CompactFlash I/O slot of Windows Powered Pocket PCs and Windows CE-based Palm-size PCs, Handheld PC Pros, and pen tablets. With a CompactFlash-to-PC Card adapter, it also works in the PC Card slot of Windows CE-based Handheld PC Pros and pen tablets and Windows 9x/Me/2000/NT notebooks.

The PC Card version works in the PC Card slot of: Windows CE-based Handheld PC Pros and pen tablets; Windows 9x/Me/2000/NT notebooks.

For software updates, please visit: www.socketcom.com/download.htm

For online product registration, visit: www.socketcom.com/prodreg.htm

Other features of the Bar Code Laser Scanner Card System or Connection Kit package include:

- Automatic detection of major bar code symbologies, such as Code 39, Interleaved 2 of 5, UPC, EAN, and Code 128.
- *Battery Friendly*[®] design maximizes your mobile device's battery life.

This *User's Guide* shows how to install and use the Bar Code Laser Scanner Card Systems and Connection Kits. For help on advanced configuration, please visit: www.socketcom.com/collect.htm

Package Contents

Bar Code Laser Scanner Card System and Connection Kit packages include:

- A CompactFlash or PC Card Bar Code Laser Scanner Card with integrated scanner cable
- A Symbol LS2104 or LS4004i Laser Scanner Gun (Systems only)
- *Symbol Quick Reference Guide* for your scanner gun (Systems only)
- The *SocketScan Installation CD*
- The *Socket Bar Code Scanners Quick Start Guide*



Note: The Connection Kits DO NOT include a laser scanner gun or a Symbol Quick Reference Guide for the laser scanner gun.

Chapter 2 Pocket PCs and Other Windows CE Devices

This chapter explains how to install and use a Bar Code Laser Scanner Card System or Connection Kit on a Windows Powered Pocket PC or Windows CE-based Palm-size PC, Handheld PC Pro, or pen tablet.

The LS2104 Systems and Connection Kits are available with either a CompactFlash or PC Card. The LS 4004i Systems and Connection Kits only come with a PC Card.

This chapter shows Pocket PC screens. Other Windows CE-based devices have functionally equivalent screens.



Getting Started

STEP 1: Uninstall any Socket scanning software already on your device.

STEP 2: Install the new SocketScan software.

STEP 3: Insert the laser scanner card and connect it to your gun.

STEP 4: Start SocketScan.

STEP 5: If necessary, program your gun to work with SocketScan.

STEP 6: Start scanning data into a Windows program

OPTIONAL: Configure sounds and prefix/suffixes

OPTIONAL: Configure symbologies

STEP 1: Remove Old SocketScan/ScanWizard

Uninstall any scanning software from Socket (e.g., ScanWizard, previous versions of Socket Scan, etc.) that may already be on your mobile computer.

Important! After uninstalling old software, be sure to soft reset your Pocket PC or other Windows CE-based device.

*After
uninstalling
old software,
press the reset
button on
your device.*



STEP 2: Install New Software



Follow these steps for software installation BEFORE inserting the card:

1. Make an active connection between your device and a host PC. Use your device's serial or USB connection cable or cradle.
2. Insert the *SocketScan Installation CD* into the host PC.
3. Click **Start/Run** on your host PC and type **X: \WELCOME . EXE** (replace **X** with your CD drive letter).
4. In the **SocketScan Welcome** screen, select **Install SocketScan for CE**.
5. Follow the wizard until software installation is done. When you see **Application Downloading Complete**, tap **OK**. Remove the serial/USB cable or cradle.

STEP 3: Connect the Scanning Hardware

Connect the Card to the Laser Gun

Use the cable attached to the card. For more details, please refer to the *Symbol Quick Reference Guide*.

Insert the Laser Scanner Card

Plug the Bar Code Laser Scanner Card directly into a slot of its size, or use an adapter to use a CF card in a PC Card slot. Make sure the colorful label is on top.

Insert the card directly into a slot of its size.



OR



Insert a CompactFlash card into an adapter, then plug the combined unit into a PC Card slot.

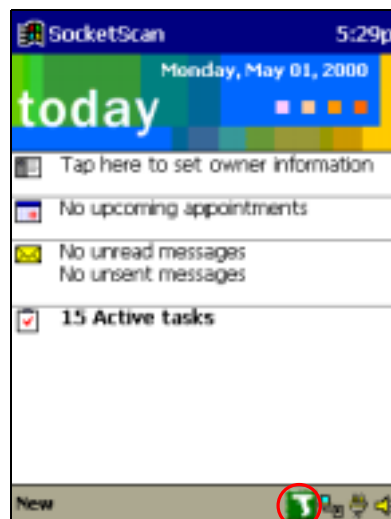
STEP 4: Start SocketScan

You can launch SocketScan by going to **Start | Programs | SocketScan**.
For Handheld PC Pros and pen tablets, you can also tap on the SocketScan icon directly on the desktop:



SocketScan

Whenever SocketScan is running and the card is inserted, the scanner gun icon should appear in the device's task tray:



The “no card detected” icon  in the task tray may denote an absent or improperly inserted or configured card.

*Note: For Pocket PCs, the task tray is visible from the **Today** screen.*

STEP 5: Program Gun for SocketScan 3.0

This step is only necessary if:

- You did not buy your laser scanner gun from Socket, or
- You bought your laser scanner gun from Socket but with a SocketScan version previous to 3.0.

Please go to Appendix B, “Updating Laser Guns,” and scan the bar codes provided if you satisfy one of the criteria above. Otherwise skip this step.

STEP 6: Scan Data into a Windows Program

Follow these steps to scan data into any Windows program. For information about bar code scanning applications, please email info@socketcom.com

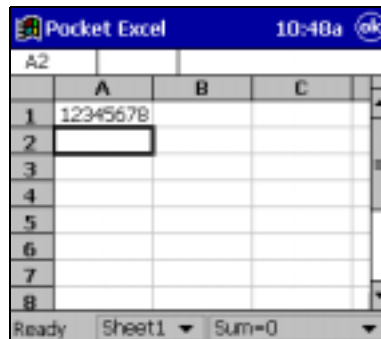
1. If not already open, start SocketScan.
2. Start the Windows application you want to receive the data, such as Word, Excel, or their Pocket versions. Inside the application, make sure a new document or spreadsheet is open that you can scan data into.
3. Press the trigger button and scan the bar code. For instructions, refer to the *Symbol Quick Reference Guide* included with your scanner gun.

For example, try the following Code 39 bar code:



Important! Do not look directly into the beam or point it at a person!

4. After a successful scan, data should appear in your document. For example, if you scan the bar code above into a Pocket Excel spreadsheet, a number should appear in the first cell:



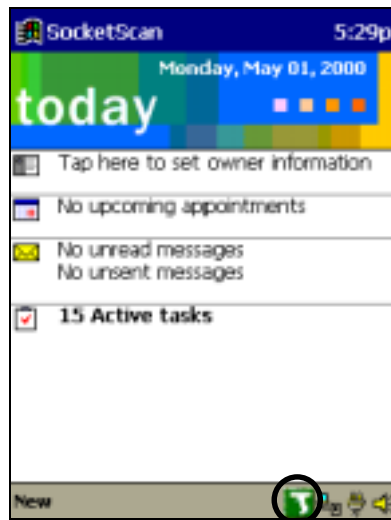
5. To close SocketScan, tap on the scanner gun icon in the task tray or task bar, then tap **Close**.

Optional: Configure Sounds, Prefix/Suffixes

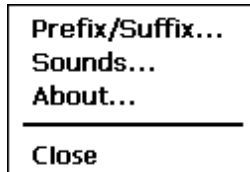
The SocketScan applet lets you specify prefix and suffix characters to be added automatically to the data that you scan. This makes it easy to use the Bar Code Laser Scanner Card with existing Windows applications. The applet also lets you choose any WAV sound file to be played to indicate a successful scan.

Starting the Applet

1. Tap on the SocketScan icon in the task tray:



2. The SocketScan applet menu will appear:



Adding Prefix/Suffix Characters

1. Start the applet. In the SocketScan applet menu, tap **Prefix/Suffix...**
2. In the **Prefix** and **Suffix** fields, enter the characters you want to be appended to each scan (128 character maximum). When done, tap **OK**.

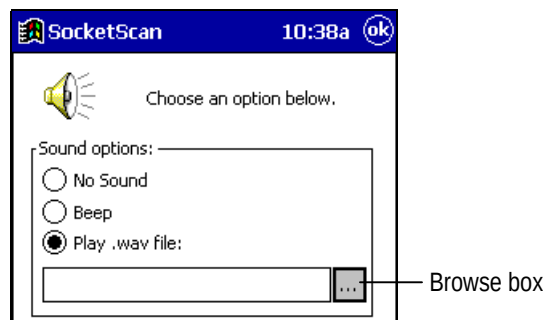


Note: Prefixes /suffixes can also be added by scanning bar codes in the Symbol Programming Guide for your particular laser scanner gun model, in Adobe Acrobat PDF format at: www.socketcom.com/collect.htm

If prefixes/suffixes are added by both methods, then the effect is cumulative.

Specifying a Sound

1. Start the applet. In the SocketScan applet menu, tap **Sounds...**
2. Select a sound for indicating successful scans, then tap **ok**.

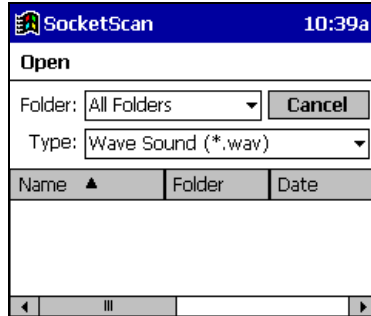


To you want to play a .WAV file, after selecting **Play .wav file**, you can search through files by tapping the browse box.

Note: For Pocket PCs, you can only select WAV files from the My Documents folder and its subfolders. If necessary, copy the WAV files you want to this folder.

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3. In the **Open** screen, tap on the file you want:



Optional: Configure Symbologies

You can manually configure your laser scanner gun to accept or ignore certain bar code symbologies and extensions. Check Appendix B, “Default Parameters,” to see if the gun is already configured for the symbology you need.

Default symbologies include Code 39, Code 128, Interleaved 2 of 5, UPC, and EAN.

To reconfigure your gun for different symbologies, please refer to the *Symbol Programming Guide* for your particular laser scanner gun model, available in Adobe Acrobat PDF format at: www.socketcom.com/collect.htm

Chapter 3 Windows 9x/Me/2000 Notebooks



This chapter explains how to install and use a Bar Code Laser Scanner Card System or Connection Kit on a Windows 9x/Me/2000 notebook.

The LS2104 Systems and Connection Kits are available with either a CompactFlash or PC Card. The LS 4004i Systems and Connection Kits only come with a PC Card.

This chapter shows Windows 98 screens. Unless otherwise noted, other Windows versions have functionally equivalent screens.

Getting Started

STEP 1: Uninstall any Socket scanning software already on your device.

STEP 2: Install the new SocketScan software.

STEP 3: Insert the laser scanner card and connect it to your gun.

STEP 4: Configure Windows for new hardware.

STEP 5: Start SocketScan.

STEP 6: If necessary, program your gun to work with SocketScan.

STEP 7: Start scanning data into a Windows program

STEP 1: Remove Old SocketScan/ScanWizard

Uninstall any scanning software from Socket (e.g., ScanWizard, previous versions of Socket Scan, etc.) that may already be on your mobile computer.

Important! After uninstalling old software, be sure to reboot your notebook.

STEP 2: Install New Software



Follow these steps for software installation BEFORE inserting the card:

1. Insert the *SocketScan Installation CD*.
2. Click **Start/Run** and type **X: \WELCOME . EXE** (replace **X** with your CD drive letter).
3. In **SocketScan Welcome**, select **Install SocketScan for Notebooks**.
4. Follow the wizard until software installation is done.

STEP 3: Connect the Scanning Hardware

Connect the Card to the Laser Gun

Use the cable attached to the card. For more details, please refer to the *Symbol Quick Reference Guide*.

Insert the Laser Scanner Card

Plug the Bar Code Laser Scanner Card directly into your notebook's PC Card slot. Make sure the colorful label is on top.

If using a CompactFlash card, first insert it into a Type I CompactFlash-to-PC Card adapter (available separately from Socket), then plug the combined unit into the PC Card slot.

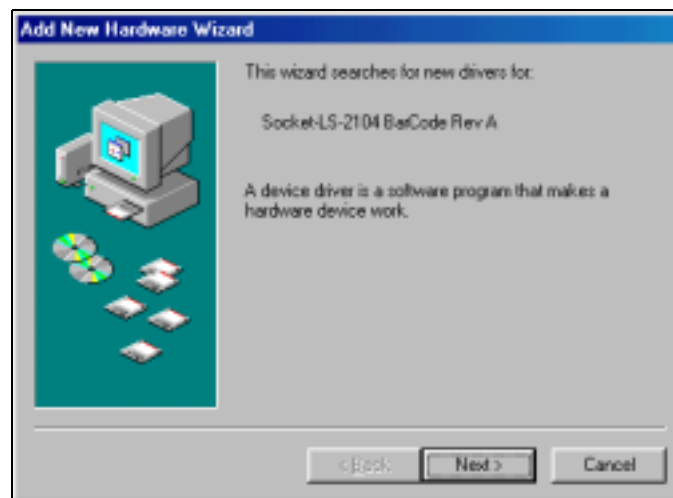


You can use a Type I CompactFlash-to-PC Card adapter to plug a CompactFlash card into a PC Card slot.

STEP 4: Configure for New Hardware

Important! Make sure the SocketScan Installation CD is still inside your notebook before configuring for new hardware!

1. Windows 2000 only: A **Digital Signature Not Found** screen may appear. Click **Yes**.
2. The first time you insert the Bar Code Laser Scanner Card, a new hardware or device driver wizard will appear. Make sure the installation CD is still in your notebook.



3. Follow the wizard to install the Bar Code Laser Scanner Card drivers, making the appropriate selection below as prompted:
 - a. Windows 95 — Select **Other Locations** and specify your CD drive.
 - b. Windows 98 — Select **Search for the best driver for your device**. In the next screen, select **CD-ROM drive**.
 - c. Windows Me — Select **Automatic search for a better driver**.
 - d. Windows 2000 — Select **Search for a suitable driver for my device**. In the next screen, select **CD-ROM drive**.

STEP 5: Start SocketScan

You can launch SocketScan by going to **Start | Programs | SocketScan**.
Or, you can click on the **SocketScan** icon directly on the desktop:



Whenever SocketScan is running and the card is inserted, the scanner gun icon  should appear in the task bar at the bottom of your screen:



The “no card detected” icon  may denote an absent or improperly inserted or configured card.

STEP 6: Program the Gun for SocketScan

This step is only necessary if:

- You did not buy your laser scanner gun from Socket, or
- You bought your laser scanner gun from Socket but with a SocketScan version previous to 3.0.

If you fit one of the criteria above, refer to Appendix B, “Updating Laser Guns,” and scan the bar codes provided in order. Otherwise skip this step.

STEP 7: Scan Data into a Windows Program

Follow these steps to scan data into any Windows program. For information about bar code scanning applications (available separately), please email info@socketcom.com

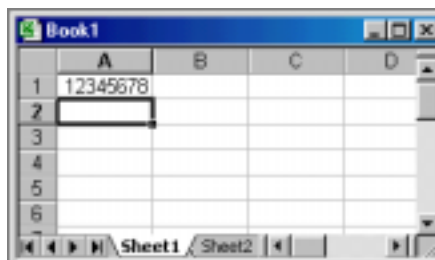
1. If not already open, start SocketScan.
2. Go Start the Windows application you want to receive the data, such as Notepad, Word, or Excel. Inside the application, make sure a new document or spreadsheet is open that you can scan data into.
3. Press the trigger button and scan the bar code. For instructions, refer to the *Symbol Quick Reference Guide* included with your scanner gun.

For example, try the following Code 39 bar code:



Important! Do not look directly into the beam or point it at a person!

4. After a successful scan, data should appear in your document. For example, if you scan the bar code above into an Excel spreadsheet, data should appear in the first cell:



5. To close SocketScan, right-click on the scanner gun icon in the task bar, then click **Close**.

Optional: Configure Sounds, Prefix/Suffixes

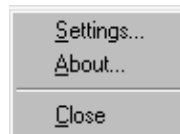
The SocketScan applet lets you specify prefix and suffix characters to be added automatically to the data that you scan. This makes it easy to use the scanner gun with existing Windows applications. The applet also lets you choose any WAV sound file to be played to indicate a successful scan.

Starting the Applet

1. Click on the SocketScan icon in the task bar at the bottom of your screen:



2. The SocketScan applet menu will appear. Click on **Settings...**



Adding Prefix/Suffix Characters

Note: Prefixes /suffixes can also be added by scanning bar codes in the Symbol Programming Guide for your particular laser scanner gun model, in Adobe Acrobat PDF format at: www.socketcom.com/collect.htm

If prefixes/suffixes are added by both methods, then the effect is cumulative.

1. Start the applet. In **SocketScan Settings**, click on the **Prefix/Suffix** tab.

2. In the **Prefix** and **Suffix** fields, enter the characters you want to be appended to each scan (128 character maximum). When done, click **OK**.

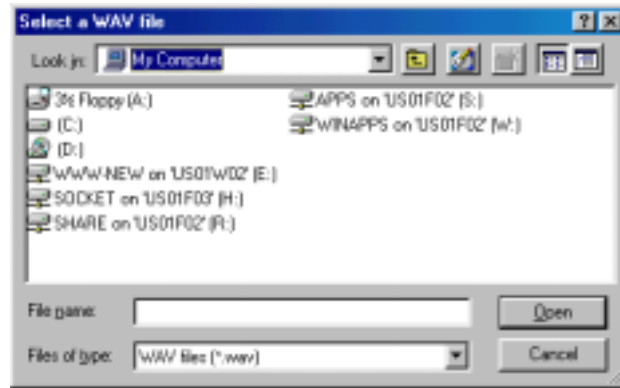


Specifying a Sound

1. Start the applet. In **SocketScan Settings**, click on the **Sound** tab.
2. Select a sound for indicating successful scans, then click **OK**.



To you want to play a .WAV file, after selecting **Play .wav file**, you can search through files by clicking on the **Browse** button. In the **Select a WAV file** screen, select the file you want, then click on the **Open** button:



Optional: Configure Symbolologies

You can manually configure your gun to accept or ignore certain bar code symbolologies and extensions. Check Appendix B, "Default Parameters," to see if the gun is already configured for the symbology you need.

Default symbolologies include Code 39, Code 128, Interleaved 2 of 5, UPC, and EAN.

To reconfigure your gun for different symbolologies, please refer to *Symbol Programming Guide* for your particular laser scanner gun model, available in Adobe Acrobat PDF format at: www.socketcom.com/collect.htm

Chapter 4 Windows NT 4.0 Notebooks



This chapter explains how to install and use a Bar Code Laser Scanner Card System or Connection Kit on a Windows NT 4.0 notebook.

The LS2104 Systems and Connection Kits are available with either a CompactFlash or PC Card.

The LS 4004i Systems and Connection Kits only come with a PC Card.

Getting Started

- STEP 1: Uninstall any Socket scanning software already on your device.
- STEP 2: Make sure your notebook is turned OFF. Insert the laser scanner card and connect it to your gun. Then turn on your notebook.
- STEP 3: Install the new SocketScan software.
- STEP 4: Start SocketScan.
- STEP 5: Set up SocketScan for the right COM port.
- STEP 6: If necessary, program your gun to work with SocketScan.
- STEP 7: Start scanning data into a Windows program.

STEP 1: Remove Old SocketScan/ScanWizard

Uninstall any scanning software from Socket (e.g., ScanWizard, previous versions of Socket Scan, etc.) that may already be on your mobile computer.

Important! After uninstalling old software, be sure to reboot your notebook.

STEP 2: Connect the Scanning Hardware

Important! Turn off your notebook before inserting the card!

Insert the Laser Scanner Card

Plug the Bar Code Laser Scanner Card directly into your notebook's PC Card slot. Make sure the colorful label is on top.

If using a CompactFlash card, first insert it into a Type I CompactFlash-to-PC Card adapter (available separately from Socket), then plug the combined unit into the PC Card slot.



You can use a CompactFlash-to-PC Card adapter to plug a CompactFlash card into a PC Card slot.

Connect the Card to the Laser Gun

Use the cable attached to the card. For more details, please refer to the *Symbol Quick Reference Guide*.

After inserting the card and connecting it to the gun, then turn on the notebook.

STEP 3: Install New Software

Important! This installation is for NT workstations without third party Card Services. If you have third party Card Services, consult with the third party to confirm compatibility.



Follow these steps for software installation AFTER inserting the card:

1. Insert the *SocketScan Installation CD*.
2. Click **Start/Run** and type **X: \WELCOME . EXE** (replace X with your CD drive letter).
3. In **SocketScan Welcome**, select **Install SocketScan for Notebooks**.
4. Follow the wizard until software installation is done.
5. Reboot your computer.

STEP 4: Start SocketScan

You can launch SocketScan by going to **Start | Programs | SocketScan**.
Or, you can click on the **SocketScan** icon directly on the desktop:



Whenever SocketScan is running and the card is inserted, the scanner gun icon  should appear in the task bar at the bottom of your screen:



The “no card detected” icon  in the task bar may denote an absent or improperly inserted or configured card.

STEP 5: Set up SocketScan for COM Port

1. Identify the COM port where you have inserted the card. If needed, contact Socket technical support for help.
2. Right-click the **scanner gun icon**  in the task bar and select **Settings**. Click the **Device** tab, and select the COM port Windows assigned to the Bar Code Laser Scanner Card.

STEP 6: Program the Gun for SocketScan

This step is only necessary if:

- You did not buy your laser scanner gun from Socket, or
- You bought your laser scanner gun from Socket but with a SocketScan version previous to 3.0.

If you fit one of the criteria above, then please refer to Appendix B, “Updating Laser Guns,” and scan the bar codes provided in order. Otherwise please skip this step.

STEP 7: Scan Data into a Windows Program

Follow these steps to scan data into any Windows program. For information about bar code scanning applications (available separately), please email info@socketcom.com

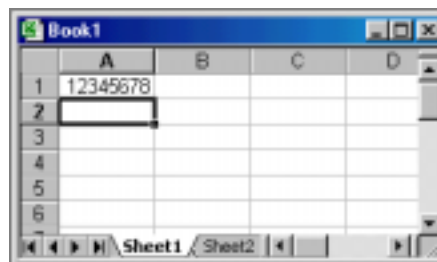
1. If not already open, start SocketScan.
2. Start the Windows application you want to receive the data, such as Notepad, Word or Excel. Inside the application, make sure a new document or spreadsheet is open that you can scan data into.
3. Press the trigger button and scan the bar code. For instructions, refer to the *Symbol Quick Reference Guide* included with your scanner gun.

For example, try the following Code 39 bar code:



Important! Do not look directly into the beam or point it at a person!

4. After a successful scan, data should appear in your document. For example, if you scan the bar code above into an Excel spreadsheet, a number should appear in the first cell:



5. To close SocketScan, click on the scanner gun icon in the task bar, then click **Close**.

Optional: Configure Sounds, Prefix/Suffixes

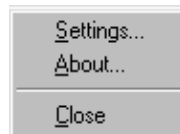
The SocketScan applet lets you specify prefix and suffix characters to be added automatically to the data that you scan. This makes it easy to use the scanner gun with existing Windows applications. The applet also lets you choose any WAV sound file to be played to indicate a successful scan.

Starting the Applet

1. Click on the SocketScan icon in the task bar at the bottom of your screen:



2. The SocketScan applet menu will appear. Click on **Settings...**



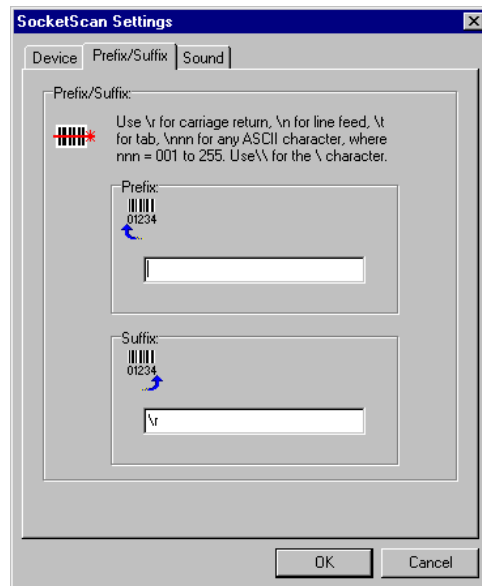
Adding Prefix/Suffix Characters

Note: Prefixes /suffixes can also be added by scanning bar codes in the Symbol Programming Guide for your particular laser scanner gun model, in Adobe Acrobat PDF format at: www.socketcom.com/collect.htm

If prefixes/suffixes are added by both methods, then the effect is cumulative.

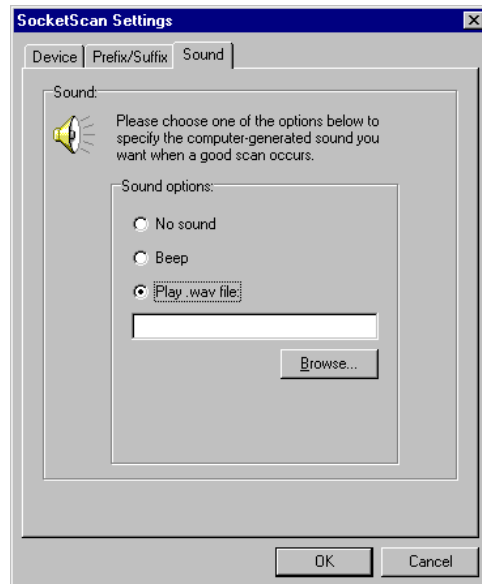
1. Start the applet. In **SocketScan Settings**, click on the **Prefix/Suffix** tab.

2. In the **Prefix** and **Suffix** fields, enter the characters you want to be appended to each scan (128 character maximum). When done, click **OK**.

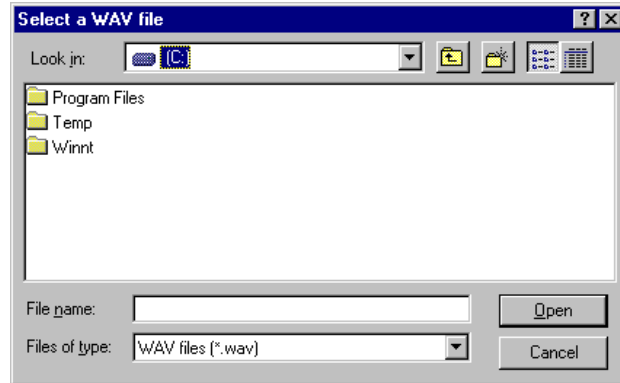


Specifying a Sound

1. Start the applet. In **SocketScan Settings**, click on the **Sound** tab.
2. Select a sound for indicating successful scans, then click **OK**.



If you want to play a .WAV file, after selecting **Play .wav file**, you can search through files by clicking on the **Browse** button. In the **Select a WAV file** screen, select the file you want, then click on the **Open** button:



Optional: Configure Symbologies

You can manually configure your gun to accept or ignore certain bar code symbologies and extensions. Check Appendix B, "Default Parameters," to see if the gun is already configured for the symbology you need.

Default symbologies include Code 39, Code 128, Interleaved 2 of 5, UPC, and EAN.

To reconfigure your gun for different symbologies, please refer to *Symbol Programming Guide* for your particular scanner gun model, available in Adobe Acrobat PDF format at: www.socketcom.com/collect.htm

Appendix A Specifications

Physical Characteristics:

PC Card Dimensions: 3.37 x 2.13 x 0.197 in
(85.6 x 54.0 x 5.0 mm)

CF Card Dimensions: 1.43 x 1.69 x 0.13 in
(36.4 x 42.8 x 3.3 mm)

Environmental Conditions:

Operating Temperature: 0°C to +50°C

Relative Humidity: 10% to 90% non-condensing

PC Card Computers Supported: Windows CE-based Handheld PC Pros and pen tablets and Windows 9x/Me/2000/NT 4.0 notebooks with PC Card slot

CF Computers Supported: Windows Powered Pocket PCs and Windows CE-based Palm-size PCs, Handheld PC Pros and pen tablets with CompactFlash I/O slot

Certification: FCC: Part 15, Class B
CE: EN55022

Warranty: One year

Web Addresses for Specifications of Symbol Technologies Scanners: For LS 2104:
www.symbol.com/ST000121.HTM
For LS 4004i:
www.symbol.com/ST000261.HTM

Specifications:

All bar code symbols/labels should satisfy the appropriate AIM Uniform Symbology Specification.

Background Substrate:

The bar code symbol should be printed on material (media) which is reflective and has a matte (not glossy) finish. A background diffuse reflectance of at least 70% to 80% is desirable for optimum contrast. Retro-reflective media should be used to obtain decode distances greater than 36 inches.

Ink Color and Type:

The inked bars should not exceed 25% reflectance at the wavelength which is being used for reading, whether printed with black ink or colored ink. The reflectance value should not vary more than 5% within the same character.

Voids and Specks:

The code should be printed clearly, free of voids, specks, blemishes and lines which could “fool” the scanner. Specks or blemishes in the white spaces, or false or missing bar sections could be interpreted by the reading equipment as part of the code. Generally, the width of such flaws is more serious than the height. Code symbols/labels should be rejected if these defects are present.

Definition:

The bars in the bar code symbol should be well defined. Their edges should not be rough or fuzzy, so that the bars and spaces have the proper widths intended for the bar code symbology used.

Contrast:

Background reflectance (that of the substrate on which the codes are printed) should always provide a good contrast relative to the ink reflectance (that of the code bars). The difference between the two should be at least 37.5% at the wavelength used for reading.

Tolerance:

The ratio of the widths of bars and spaces in a bar code symbol must conform to the appropriate AIM bar code specifications and can cause problems if not correct throughout the bar code. Problems can occur when bar edges are smeared or rough, or when they exhibit voids.

Appendix B Updating Laser Guns

This step is only necessary if:

- You did not buy your laser scanner gun from Socket, or
- You bought your laser scanner gun from Socket but with a SocketScan version previous to 3.0.

DO NOT SCAN THESE BAR CODES UNLESS YOU SATISFY ONE OF THE CRITERIA ABOVE!

With SocketScan running, scan the bar codes below in order, starting with “SET ALL DEFAULTS.” For scanning help, refer to the *Symbol Quick Reference Guide* included with your scanner gun.

Note: For Windows NT notebooks, scan these codes AFTER setting up your computer’s COM port.

Important! Do NOT scan these bar codes with the In-Hand Scan Card! Doing so will disable the scanner!



1. SET ALL DEFAULTS



2. STANDARD RTS/CTS



3. LOW POWER

Appendix C Default Parameters

Check the table below to identify default parameters for the laser scanner guns. To program other settings, please refer to the *Symbol Programming Guide* for your particular laser scanner gun in Adobe Acrobat PDF format at: www.socketcom.com/collect.htm

Parameter	LS2104 Default	LS4004i Default
Set Default Parameter	All Defaults	All Defaults
Beeper Tone	N/A	High Frequency
Beeper Volume	High	High
Laser On Time	3.0 sec	3.0 sec
Power Mode	Continuous On	Low Power
ScanStand Time-out	N/A	30 min
Beep After Good Decode	Enable	Enable
Transmit "No Read" Message	Disable	Disable
Decode Redundancy	Level 0	N/A
Autodiscriminate Response Time	1 sec	N/A
Linear Code Type Security Levels	N/A	1
Bi-directional Redundancy	N/A	Disable

UPC/EAN	LS2104 Default	LS4004i Default
UPC-A	Enable	Enable
UPC-E	Enable	Enable
EAN-8	Enable	Enable
EAN-13	Enable	Enable
Bookland EAN	Disable	Disable
Decode UPC/EAN Supplementals	Ignore	Ignore
Decode UPC/EAN Supplemental Redundancy	N/A	7
Transmit UPC-A Check Digit	Enable	Enable
Transmit UPC-E Check Digit	Enable	Enable
UPC-A Preamble	System Character	System Character
UPC-E Preamble	System Character	System Character
Convert UPC-E to A	Disable	Disable

UPC/EAN	LS2104 Default	LS4004i Default
EAN-8 Zero Extend	Disable	Disable
Converted EAN-8 to EAN-13	EAN-13	N/A
UPC/EAN Security Level	N/A	0
UPC/EAN Coupon Code	N/A	Disable

Code 128	LS2104 Default	LS 4004i Default
Code 128	Enable	Enable
UCC/EAN-128	Enable	Disable

Code 39	LS2104 Default	LS4004i Default
Code 39	Enable	Enable
Trioptic Code 39	N/A	Disable
Set Length(s) for Code 39	N/A	2-55
Code 39 Check Digit Verification	Disable	Disable
Transmit Code 39 Check Digit	Disable	Disable
Code 39 Full ASCII Conversion	Disable	Disable
Buffer Code 39	Disable	Disable

Code 93	LS2104 Default	LS4004i Default
Code 93	Disable	Disable
Set Length(s) for Code 93	N/A	4-55

Interleaved 2 of 5	LS2104 Default	LS4004i Default
Interleaved 2 of 5	Enable	Enable
Set Length(s) for I 2 of 5	14	14
I 2 of 5 Check Digit Verification	N/A	Disable
Transmit I 2 of 5 Check Digit	N/A	Disable
Convert I 2 of 5 to EAN 13	Disable	Disable

Discrete 2 of 5	LS2104 Default	LS4004i Default
Discrete 2 of 5	Disable	Disable
Set Length(s) for D 2 of 5	12	12

34 - Appendix C Default Parameters

Codabar	LS2104 Default	LS4004i Default
Codabar	Disable	Disable
Set Lengths for Codabar	N/A	5-55
CLSI Editing	Disable	Disable
NOTIS Editing	Disable	Disable

MSI Plessey	LS2104 Default	LS4004i Default
MSI Plessey	Disable	Disable
Set Length(s) for MSI Plessey	N/A	Any length
MSI Plessey Check Digits	One	One
Transmit MSI Plessey Check Digit	Disable	Disable
MSI Plessey Check Digit Algorithm	Mod 11/Mod 10	Mod 10/Mod 10

Data Options	LS2104 Default	LS4004i Default
Transmit Code ID Character	None	None
Pause Duration	N/A	0
Prefix/Suffix Values	7013 (<CR/LF>)	7013 (<CR/LF> for serial)
Scan Data Transmission Format	Data as is	Data as is

RS-232C	LS2104 Default	LS4004i Default
RS-232 Host Type	Standard	N/A
Baud Rate	9600	N/A
Parity	None	N/A
Hardware Handshaking	None	N/A
Software Handshaking	None	N/A
Host Serial Response Time-out	2 sec	N/A
RTS Line State	Low	N/A
Stop Bit Select	1	N/A
ASCII Format	8-Bit	N/A
Beep on <BEL>	Disable	N/A
Intercharacter Delay	0	N/A

Appendix D PDF 417

Scan a bar code below to enable or disable PDF417 scanning capabilities on the Symbol LS4004i laser scanner gun. This symbology will NOT work on the Symbol LS2104 laser scanner gun.

For more information about PDF417, visit: www.PDF417.com



Enable PDF417



Disable PDF417

Appendix E Troubleshooting

SYMPTOM:

I get the “No Card Detected”  icon in the task tray or task bar and can't trigger the laser or scan bar codes.

POSSIBLE REASON	SOLUTION
Your mobile computer does not recognize the Bar Code Laser Scanner Card.	Make sure the card is inserted properly. If necessary, remove and reinsert. If using battery power, be sure to tap Yes if asked if you want to use battery power.

SYMPTOM:

While scanning, the laser fires, but no data appears.

POSSIBLE REASON	SOLUTION
The laser beam is too close or too far from the bar code.	Practice so you get accustomed the most effective distance and scanning angle.

SYMPTOM:

My older LS2104 scanner won't work on my notebook.

POSSIBLE REASON	SOLUTION
Older CompactFlash versions of Socket's 2104 Laser Scanner Card don't work with Windows 9x/Me/2000/NT notebooks.	Get a current version of the CompactFlash card for the LS2104.

SYMPTOM:

While scanning a bar code, I get two carriage returns even though I programmed only one into SocketScan.

POSSIBLE REASON	SOLUTION
Your scanner has a carriage return already programmed into its hardware.	Remove the carriage return you programmed. For more help, visit: www.socketcom.com/collect.htm

Appendix F Technical Support

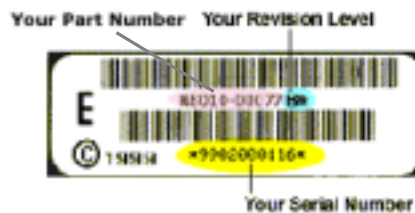
How to Contact Socket

Refer to the Appendix C, “Troubleshooting,” for help with technical problems. If trouble persists, contact Socket’s technical support department prepared with the following:

- The part number (including revision level) and serial number of your Bar Code Laser Scanner Card (please see diagram below)
- The type of gun you are using (LS2104 or LS4004i)
- Whether you bought a System or Connection Kit
- The manufacturer, model number, and Windows version of your mobile computer
- What you did to try to correct the problem

To reach Socket’s technical support department:

- Email techsupport@socketcom.com
- Phone 510-744-2720
- Fax 510-744-2727



Please refrain from disassembling the CompactFlash or PC Card. Disassembly of this device will void the product warranty.

Limited Hardware Warranty

Socket Communications Incorporated (Socket) warrants this product against defects in material and workmanship, under normal use and service, for two years following the date of purchase.

Incompatibility is not a defect covered by Socket's warranty. During the warranty period, Socket will, at its option, repair or replace the defective product at no charge when furnished with proof of retail purchase, provided that you deliver the product to Socket or to an authorized Socket Service Center.

The returned product must be accompanied by a return material authorization (RMA) number issued by Socket or by an authorized Socket Service Center. If you ship the product, you must use the original container or equivalent and you must pay the shipping charges to Socket. Socket will pay shipping charges back to any location in the contiguous United States. This warranty applies only to the original retail purchaser and is not transferable.

Socket may, at its option, replace or repair the product with new or reconditioned parts, or refund to Customer the purchase price paid for the defective product, and the returned product becomes Socket's property. Socket warrants the repaired or replaced products to be free from defects in material or workmanship for ninety (90) days after the return shipping date, or for the duration of the original warranty period, whichever is greater.

This warranty does not cover the replacement of products damaged by abuse, accident, misuse or misapplication, nor as a result of service or modification other than by Socket.

SOCKET IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING DAMAGE TO PROPERTY AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some states do not allow limitation of implied warranties, or the exclusion or limitation of incidental or consequential damages, so that the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

This product may contain fully tested, recycled parts, warranted as if new.

For warranty information, phone (510) 744-2700.

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This manual has been prepared with the greatest care regarding its contents. However, in the event that it contains omissions, errors or any other misinformation, feel free to contact SOCKET COMMUNICATIONS at:

Socket Communications

37400 Central Court
Newark, CA 94560

Phone: (510) 744-2700

Fax: (510) 744-2727

Technical Support: (510) 744-2720

Important! Before calling for technical support, please prepare yourself with the information listed in Appendix F, "Technical Support."

Other than the above, Socket Communications can assume no responsibility for anything resulting from the application of information contained in this manual.

Socket Communications requests that you refrain from any applications of the Bar Code Laser Scanning Card that are not described in this manual. Socket Communications also requests that you refrain from disassembling the CompactFlash or PC Card. Disassembly of this device will void the product warranty.

You can track new product releases, software updates and technical bulletins by visiting Socket's web page at www.socketcom.com

Regulatory Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. This equipment is also CE EN55022 and C-TICK compliant. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user may try to correct the interference by doing any of the following:

- Reorient or relocate the receiving antenna of the radio or television.
- Increase the distance separating the equipment and the receiver.
- Connect the equipment to an outlet on a different branch circuit than that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find it helpful to read the booklet, *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402

LASER DEVICES: Symbol products using lasers comply with US 21CFR1040.10, Subchapter J and IEC825/EN 60 825 (or IEC825-1/EN 60 825-1, depending on date of manufacture). The laser classification is marked on one of the labels on the product.

Class 1 Laser devices are not considered to be hazardous when used for their intended purpose. The following statement is required to comply with US and international regulations.

Caution: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Class 2 laser scanners use a low power, visible light diode. As with any very bright light source, such as the sun, the user should avoid staring directly into the light beam. Momentary exposure to a Class 2 laser is not known to be harmful.



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